

# Ancient

## The Presocratics

The Milesians  
Thales  
Anaximander  
Anaximenes

Heraclitus

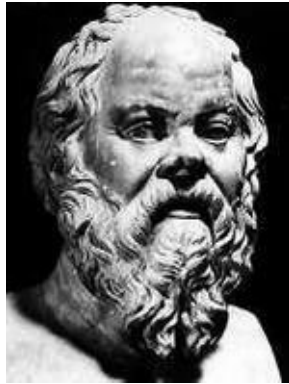
The Eleatic School  
Parmenides  
Zeno  
Melissus

Qualitative Pluralists  
Empedocles  
Anaxagoras

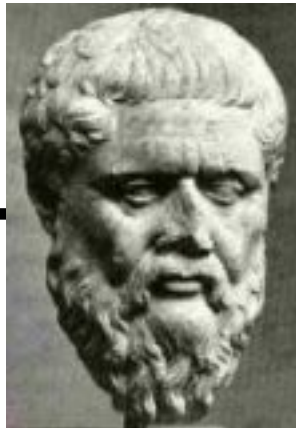
Atomists  
Leucippus  
Democritus

Pythagoras

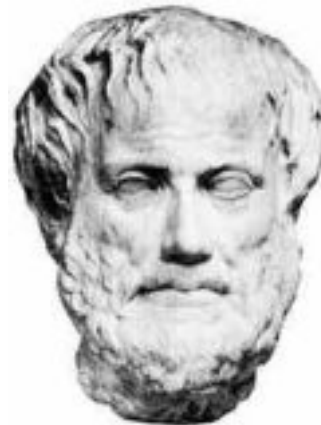
The Sophists  
Protagoras  
Gorgias  
Antiphon



Socrates (470-399 BCE)



Plato (428-348 BCE)



Aristotle (384-322 BCE)

The Antikythera Mechanism, a sophisticated astronomical computer, is built in approximately 79 CE

## The Hellenistic Schools

The Epicureans  
The Stoics  
The Skeptics

## The Romans

Cicero (106-43 BC)  
Lucretius (94-55 BC)  
Seneca (4 BC - 65 AD)  
Plutarch (45-120 AD)  
Epictetus (55-135 AD)  
Marcus Aurelius (121-180 AD)

## The Metaphysical Turn

“What is the fundamental nature of reality?”

**Medieval**

**Early**

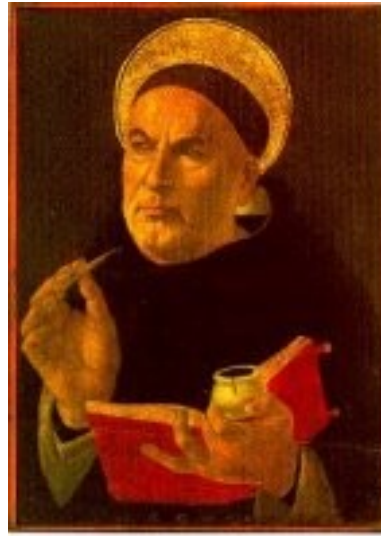
**Late**



Augustine (354-430)



Boethius (c. 480-524/525)



Aquinas (1225-1274)



Duns Scotus (1265-1308)

The Chinese develop the bead-and-wire abacus approximately 1300 CE



Anselm (1033-1109)



William of Ockham (c. 1287-1347)

**Three Vexing Questions**

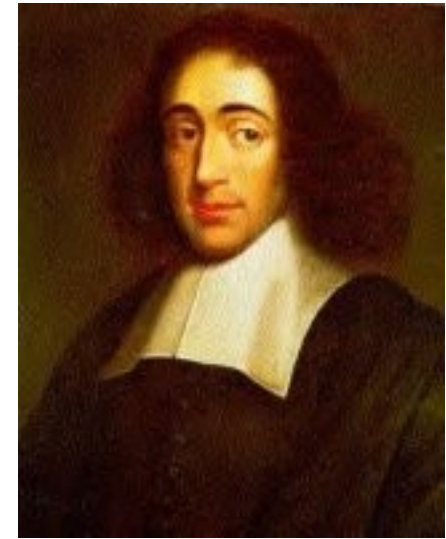
1. Are the Divine Attributes compatible?
2. How is evil possible given the Divine Attributes?
3. How is freedom of the will compatible with Divine Foreknowledge?

**Modern**



Descartes (1596-1650)

Pascal constructs a gear-driven adding machine, the "Pascalene", in 1642.



Spinoza (1632-1677)



Hobbes (1588-1679)



Pascal (1623-1662)

**The Epistemic Turn**

"What can we *know* about the fundamental nature of reality?"

**Modern**



Leibnitz (1646-1716)



Berkeley (1685-1753)

Mathematician and Engineer Charles Babbage designs and partly builds the Difference Engine. Work ceased in 1834. By 1835 Babbage had designed the Analytical Engine, a primitive programmable computer which he never built.



Babbage (1791-1871)

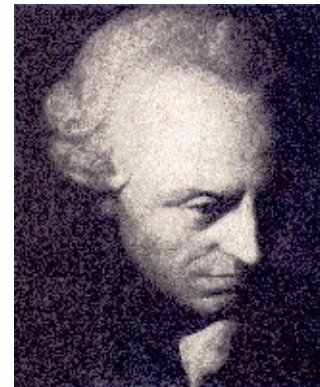


Hume (1711-1776)



Locke (1632-1704)

Leibnitz constructs a mechanical calculator, the "Stepped Reckoner", in 1674.

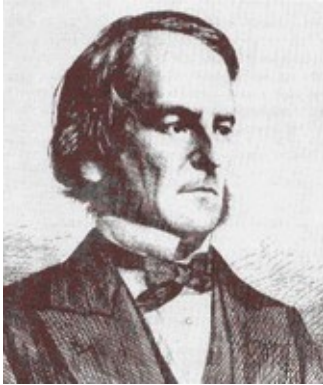


Kant (1724-1804)

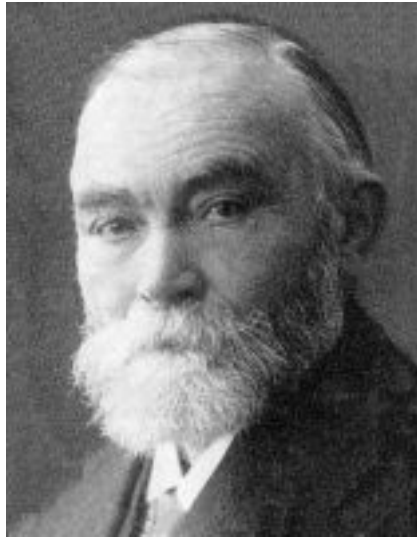


The Difference Engine

## Contemporary



Boole (1815-1864)



Frege (1848-1925)



Russell (1872-1970)

Boole publishes "An Investigation of the Laws of Thought, on Which are Founded the Mathematical Theories of Logic and Probabilities", which develops what is known today as Boolean Algebra, a subfield of discrete mathematics and the formal theory behind the logic gates used in modern computers, in 1854.



Hilbert (1862-1943)

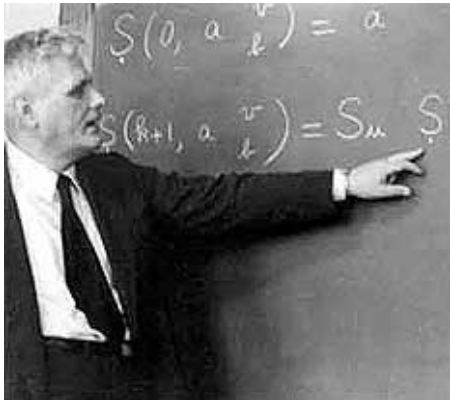


Wittgenstein (1889-1951)

### The Linguistic Turn

"What can we say about the fundamental nature of reality and what we can know about it?"

**Contemporary**



Church (1903-1995)



Tarski (1901-1983)



Broad (1887-1971)



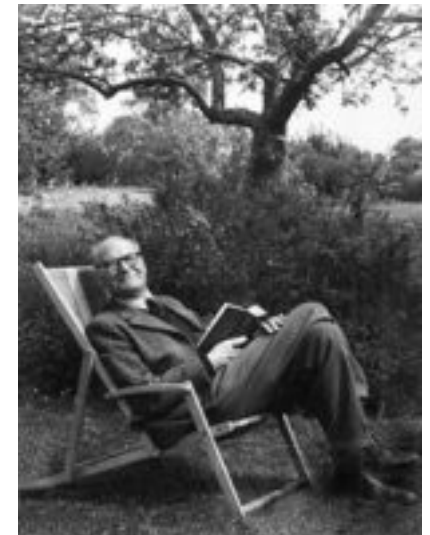
Turing (1912-1954)



von Neumann (1903-1957)

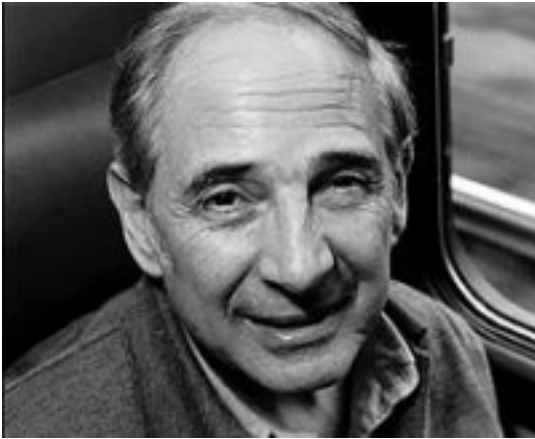


Gödel (1906-1978)



Ryle (1900-1976)

Contemporary



Searle



Nagel



Dennett



Churchland



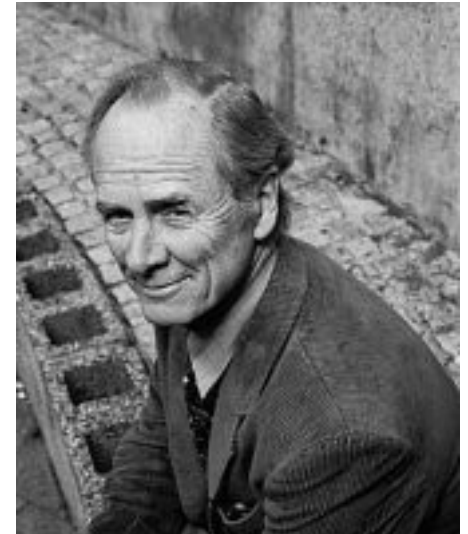
Putnam



Armstrong



Kripke



Dretske